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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/508,510	05/26/2000	MICHAEL TSCHOPE	P100564-0000	7619

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ARENT FOX KINTNER PLOTKIN & KAHN  
1050 CONNECTICUT AVENUE, N.W.  
SUITE 400  
WASHINGTON, DC 20036

EXAMINER

MERTZ, PREMA MARIA

ART UNIT	PAPER NUMBER
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1646

DATE MAILED: 02/07/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/508,510

Applicant(s)  
Tschope et al.

Examiner  
Prema Mertz

Art Unit  
1646



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Jun 17, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23, 25, and 26 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23, 25, and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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### **DETAILED ACTION**

1. Amended claims 1-23 and 25-26 (Paper No. 15 (6/17/02) have been entered and are under consideration.
2. Receipt of Applicants' arguments and amendments filed in Paper No. 15 (6/17/02) is acknowledged.
3. The following previous rejections and objections are withdrawn in light of applicants amendments filed in Paper No. 15, 6/17/02:
  - (i) the objection to claim 19;
  - (ii) the objection to the specification based on a lack of division of the application into distinct divisions;
  - (iii) the rejection of claims 1-23, 25-26 under 35 U.S.C. 112, second paragraph as set forth in paragraphs 3a-3k of Paper No. 13 (1/16/01);
  - (iv) the rejection of claims 1-17, 21-23 and 25-26 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,151,265, in view of U.S. Patent No. 5,358,708, but Applicants arguments are rendered moot in light of the new grounds of rejection.
4. Applicant's arguments filed in Paper No. 15 (6/17/02), have been fully considered but were persuasive in part. The issues remaining are stated below.
5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Specification***

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6. The substitute specification has not been entered because it does not conform to 37 CFR 1.125(a) because no statement that it does not contain new matter is provided with the request to enter the substitute specification. Also, the substitute specification provided does not replace the claims but rather excludes the claims. See MPEP.. 608.01(q). A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and must be accompanied by: (1) a statement that the substitute specification contains no new matter; and (2) a marked-up copy showing the amendments to be made via the substitute specification relative to the specification at the time the substitute specification is filed.

***Claim rejections-35 USC § 112, first paragraph***

7. Claims 1-23, 25-26 are rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

See MPEP.. 608.4(a) Matter not in the original specification , claims or drawings.

Amended independent claims 1, 3, 25 recite the limitation “.....the formulation does not contain....., any acidic amino acids, arginine or glycine in amounts of between 0.3 and 5.0% by weight....” which represents new matter. The instant new matter was introduced in Paper No. 15 (6/17/02) as an amendment at the time of response to the first office action of the merits. A careful

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review of the specification by the Examiner reveals that the added limitation was not present in the specification as filed and was not even contemplated and therefore, constitutes new matter. Thus, the specification lacks descriptive support for the instant claims.

While contemplating inclusion of amino acids for increasing stability, the specification does not even contemplate exclusion of any amino acids in an effort to enhance stability. For example, the specification on pages 11-12 discloses "...one or more amino acids such as ....alanine, arginine, glycine, histidine, or/and methionine may be added to the formulation..... to further increase the stability". It is only the inclusion of HAS that has been contemplated and supported by the specification and not the exclusion of any other specific ingredients. Therefore, one of skill in the art would conclude that the applicants were not in possession of the claimed invention at the time of filing.

Based on the above discussion, the newly added limitation ".....the formulation does not contain....., any acidic amino acids, arginine or glycine in amounts of between 0.3 and 5.0% by weight....", in claims 1, 3, 25 is not supported by the instant specification and is regarded as new matter.

Claims 2, 4-23, 26 are rejected under 35 U.S.C. 112, first paragraph, insofar as they depend on the above claims for this newly added limitation.

***Claim rejections-35 USC § 112, second paragraph***

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8. Claims 1-23, 25-26 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 3, 25 are rejected as vague and indefinite for reciting “stability of in vitro biological activity of the formulation....” because it is not clear what the biological activity of IFN- $\beta$  being referred to is in the desired formulation. In vitro antiviral, antiproliferative and immunomodulatory assays are used to assess the biological activity of IFN- $\beta$ . However, it is unclear which of these activities is being retained in the instantly claimed formulation. It is recommended that the claims be amended to recite the specific biological activity for which there is a basis in the instant specification (see page 9), which discloses “when in physical or chemical stability is maintained” or to recite the specific variable recited in the specification as successfully argued by Applicants.

Claims 2, 4-23, 26 are rejected under 35 U.S.C. 112, first paragraph, insofar as they depend on the above claims for this newly added limitation.

***Claim rejections-35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9a. Claims 1-14, 21-23 are rejected under 35 U.S.C. § 102(b) as being anticipated by EP 0529300.

EP 0529300 teaches liquid formulation of recombinant IFN- $\beta$  without stabilizing additives, in a buffer at a pH of 7.5, stable when stored at 25° after 4 weeks (Example 3, pages 7-8). Example 3 of the reference also teaches formulations of IFN- $\beta$  at a concentration of usually  $1 \times 10^6$  to  $50 \times 10^6$  (pages 7-8), setting forth the pH value in the neutral range (range of approximately 4 to approximately 8, see page 5, lines 4-6), with serum proteins such as HSA or PVP as possible additives (page 5, lines 10-11). The disclosed range of IFN- $\beta$  at a concentration of usually  $1 \times 10^6$  to  $50 \times 10^6$  (pages 7-8) (without any added HSA) encompasses the limitations of claims 1, 3, 25. The reference teaches the choices of HSA or PVP thus making a suggestion of the possible benefits of excluding HSA. Therefore, the extended storage life for 3 months at 25° would be an inherent property of the formulation of the reference.

Where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may be an inherent characteristic of the prior art, it has the authority to require the applicant to prove that the subject matter shown in the prior art does not possess the characteristics relied on. In re Schreiber, 44 USPQ2d 1429 (Fed. Cir. 1997).

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Products of identical chemical composition cannot have mutually exclusive properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present.

In re Spada 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). See MPEP. 2112.01.

Therefore, the formulation disclosed in the reference meets the limitations of claims 1-5, 9-14, 21-23.

***Claim rejections-35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

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9a. Claims 1-23, 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0529300 in view of Patel (U.S. Patent No. 5,358,708).

The teachings of EP 0529 300 have been set forth above in para 9. The reference does not recite the specific buffers recited in claims 6-8, or the addition of methionine as recited in claims 16-17, or the addition of an ingredient for increasing viscosity or adjusting tonicity.

Patel teaches several approaches taken to stabilize and prepare protein formulations of IFN- $\alpha$ , erythropoietin, human plasminogen, IL-2, GM-CSF and plasmin (column 1, para 1-2; claims 1-12 and abstract) with the addition of methionine as a stabilizer.

It would have been *prima facie* obvious at the time the invention was made to prepare an IFN- $\beta$  formulation as disclosed by EP 0529300 with the addition of methionine as taught by Patel to prevent oxidation and the motivation for doing so would be because Patel teaches in Figure 4 that addition of methionine is effective in extending the storage life of IFN- $\alpha$ -2b (see Example 1, lines 35-47). Furthermore, one of skill in the art would be motivated to stabilize IFN- $\beta$  to be used for therapy so that at prolonged periods at nearly room temperature and a pH close to neutral (similar to body fluids) the IFN- $\beta$  can be stored till it is administered.

### ***Conclusion***

No claim is allowed.

### ***Advisory Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prema Mertz whose telephone number is (703) 308-4229. The examiner can normally be reached on Monday-Friday from 7:00AM to 3:30PM (Eastern time).

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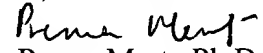
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler, can be reached on (703) 308-6564.

Official papers filed by fax should be directed to (703) 305-3014 or (703) 308-4242. Faxed draft or informal communications with the examiner should be directed to (703) 746-5300.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [yvonne.eyler@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark Office on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

  
Prema Mertz Ph.D.  
Primary Examiner  
Art Unit 1646  
January 14, 2003